
* INDIANA SINCLAIR-TIMEX NEWSLETTER *

July--August 1991

Editor-Frank Davis
Assist - M. Fellerski
Publisher-Carol Davis

This issue....

Next meetings -August, September and October
Dayton Computerfest and Editorial
For Sale: Super TS-2068 System
IEEE-488 for Sinclair Users
IEEE-488 Commodore Synchronous Serial Interface
Hara Arena and Dayton Map for Computerfest
North Dayton Hotels
The Society for the Preservation and Promotion of Aerco
Products by Spencer Allen
Sinclair Mandelbrot Art and Bit Image Screen Dump Samples

I.S.T.U.G. MEETING

As all should be aware by now, the meeting for ISTUG for August will take place this Saturday at the ISTUG booth at the Dayton Computerfest. That is August 24th at 1:30 PM, so let us hope for a good turnout!

The meeting for Septeber 28th will be held at the Eagledale Public Library, meeting room, 3225 Lowery Road, Indianapolis, IN. This meeting will start at 1:30 P.M. This is one block East of Georgetown Road on 34th. For directions call Frank Davis at 317-473-8031 or Paul Holmgren at 317-291-6002.

The meeting for October 26th, will be held at the Eagledale Public Library, meeting room, 3225 Lowery Road, Indianapolis, In. The meeting will start at 1:30 P.M. and run approximately 3 hours. For directions call Frank or Paul at the above given phone numbers. I am looking forward to a large turnout at both meetings.

DAYTON COMPUTERFEST

There are times when I wonder why I seem to push computer shows and computerfests as much as I do. I suppose I could also ask myself why I edit this newsletter, or work as hard as I do to keep ISTUG a viable group. Perhaps I should even ask myself just why Carol and I publish and edit UPDATE Magazine, or do a small Sinclair mail order business (Mechanical Affinity). The main reason I do not ask myself such questions is that I am philosophically opposed to engaging in introspection. I believe it to be one of the number one causes of neuroses and psychoses. So I keep it to a minimum. There are of course times when I doubt as to whether the number of hours that are put into these activities is appreciated, or realized. I try my best to do these activities with no hard feelings or misunderstandings. This is not always easy. For some who seem to enjoy causing controversy in the Sinclair Community this may seem an odd way to handle life. I have noticed a tendency in newsletters of late to try to create controversy. Leave me out of this. I hope to see as many of you as possible at the Dayton Computerfest.

FOR SALE: Super TS-2068 SYSTEM

<u>Components</u>	<u>Used Value</u>	<u>Notes</u>
<u>TS-2068 Computer</u>	<u>\$85.00</u>	----Excellent condition. Has flip switch to select RGB Monitor, Composite Monitor, or Television.
<u>RGB Monitor</u>	<u>\$150.00</u>	----A nice crisp 14" RGB Color Monitor with hook-up cable.
<u>Oliger 4 port</u>	<u>\$40.00</u>	----Has RGB Monitor Interface and 4 expansion slots. expansion buss
<u>Oliger DOS System</u>	<u>\$160.00</u>	----2 Board DOS system. V2-52 EPROM which provides Dual DOS, the capability of operating both Oliger DOS and Larken DOS, either as Single DOS or Combined DOS. Also copies disks of either format in same or opposite format.
<u>Larken DOS Dock Cartridge</u>	<u>\$65.00</u>	----LKDOS Cartridge provides LKDOS when used with one or two of the Oliger disk interface boards.
<u>Larken 256K RAM DISK</u>	<u>\$120.00</u>	----256K Ram Disk and Extra Memory. Chips installed. Operates either as RAM DISK or Extra Memory for Programming.
<u>Quad Disk Drives</u>	<u>\$300.00</u>	----2 DSDD 40 track and 2 DSDD 80 track drives in four drive Beige cabinet with HD Power supply.
<u>Oliger Centronics Printer Interface</u>	<u>\$30.00</u>	----Interface for Printers.
<u>64K Printer Buff Buffer</u>	<u>\$125.00</u>	----An intelligent printer buffer that allows Data Hold or Combine and output to one or two printers
<u>A/B Switch</u>	<u>\$10.00</u>	----The A/B switch allows input to the above buffer from one or two computers and output from the buffer to one or two printers. The text data from two softwares or two computers can be combined into one document for print out.
<u>Z/SIO Interface</u>	<u>\$90.00</u>	----An intelligent RS-232 Serial interface. The principle use is for Telecomputing with:
<u>Avantex Modem</u>	<u>\$100.00</u>	----Telecomputing Modem. Connects to phone line. 200/1200 baud
<u>Zebra OS-64 Cart</u>	<u>\$30.00</u>	----Provides 64 Column Screen and 64 Column programming system.
<u>32K NVM Cart</u>	<u>\$60.00</u>	----Dock Cartridge that provides 32K battery held Extra Memory. Usable in Dock or XROM Banks.

Total Used Value: \$1365.00 SALE PRICE= \$750.00 with all cabling. Also includes an entire library of software mostly for LKDOS and Oliger DOS, plus many books and manuals.

OPTIONAL: Panasonic KXP-1124 Printer: \$225.00. All software set up for use with this excellent 24 pin printer. (Cost \$380.00 and is in New condition).

CALL TO RESERVE: Bill Jones, Tel: 904 871 4513

IEEE-488 for SINCLAIR USERS

In the pages of LIST there have appeared designs for decent interfaces using Z80 PIO chips and dip switch settable addressing. There have also been some very convenient specialized versions which do only one thing well.

The lack of a decent source for general purpose interfaces has kept most people from taking full advantage of the features of full size printers, plotters, and other non-TIMEX/sinclair products.

John McMichael has come out with a driver for the COMMODORE printer/plotter and a color printer. My personal congratulations go to him.

It is not widely known that the COMMODORE serial port is a simple form of the IEEE-488 GPIB with serial data transfer in place of parallel. It holds no mysterious secrets. All that is needed to do the same with a TS2068 SPECTRUM, or QL is a half way decent interface.

Half way decent means that the interface must be program configurable so all the pins on the device to be run (printer or otherwise) are made available as input or output - not for just one unique device, but whatever you want to attach. A single PIO will usually always fill the bill.

HORRORS! How can a PIO be used for serial communications? Doesn't it take a UART or an SIO?

It depends on how fast you want to transfer data. A UART or SIO is very handy if you want your CPU to handle bytes of data. The overhead for testing UART status makes that slower than you might expect. If you settle for bits instead of bytes, all the popular data transmission protocols become available to you. When you consider that includes Local Area Networking and Mainframe access, you might ask why nobody ever made a half way decent I/O interface available.

My guess is that people were so disgruntled with the limitations of the TS2068 that they didn't feel like trying. A few diehards have stayed with it, however. Even so, their efforts have not been exactly welcomed with opened arms so they could make a fair return for their honest sweat.

The answer to this dilemma is to make a series of small, but effective improvements which will not have to be redone later, and not so specialized they don't allow other uses. A half way decent interface is one of these.

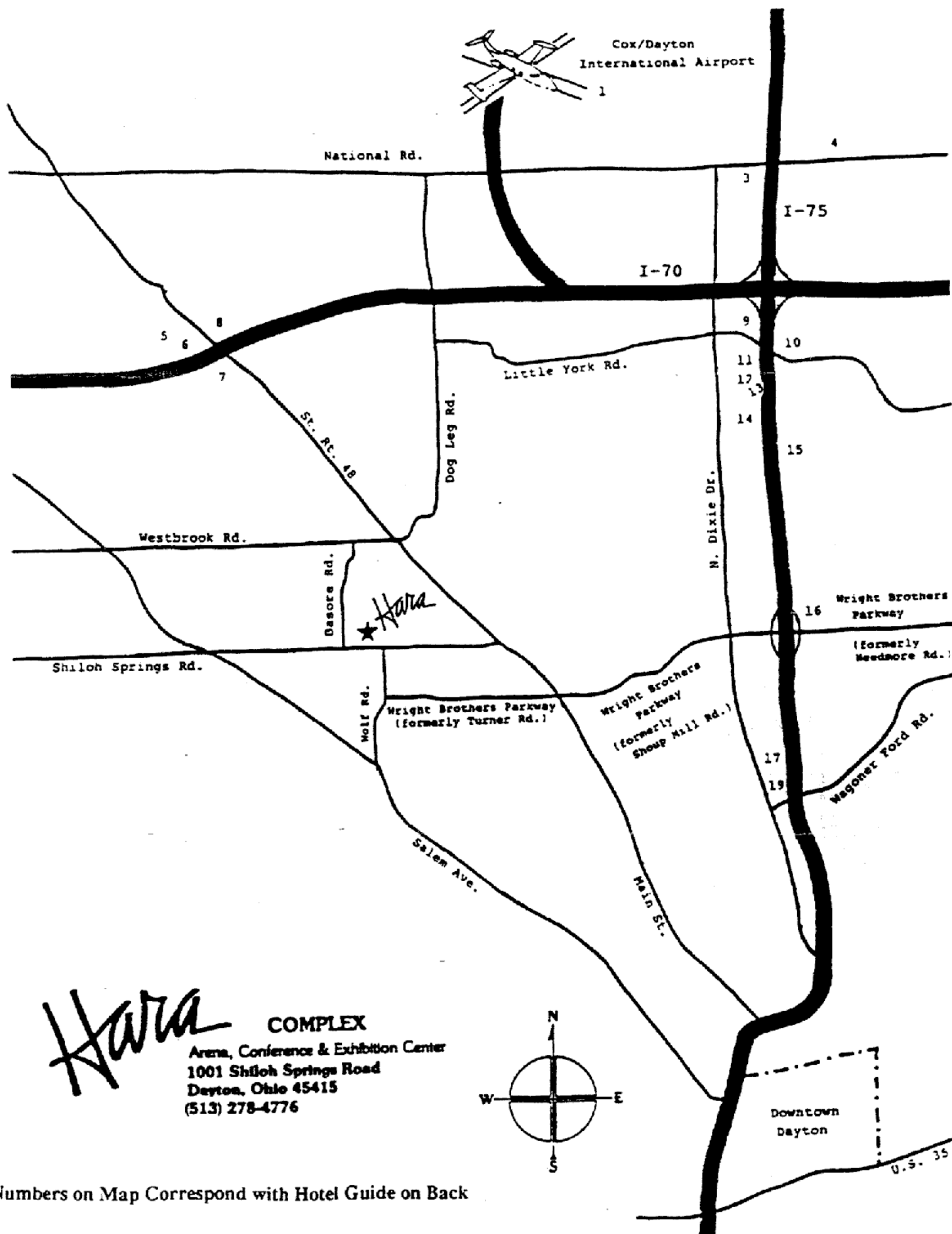
Those who have read some of my previous articles should know that I think the TS2068 is inherently one of the most powerful and fast computers around, even at triple the price. It suffers because of barriers in ROM and documentation which have people snowed into believing it was a comedy of errors and mismanagement. Don't you believe it! Replace that accursed ROM and you have a jewel of a machine. The SCLD video modes are really advanced, much better than CGA cards. How come nobody has written any software which takes advantage of it? All I have seen is a couple of pieces of artwork.

A serious suggestion is to get rid of that special connector arrangement in favor of one that is commonly available. Why make everything depend on stacking up device after device that won't fit anything else? I have made the suggestion that the IBM connector is perfectly suitable, economical, and has the possibility of accepting clone cards. That would make it easy for our favorite computer to stretch its wings. One of those cheap clone cards happens to BE a half way decent parallel port. Why pay more?

The COMMODORE information shows how six I/O pins from a PIO (or even the joystick port!) can be used to run their disk drives, printer/plotter and graphic printer with your "obsolete" computer. My reason for supplying this information is to get you users out there to get off your duffs and begin to demand (and get) better things made for you. Support your suppliers by being willing to pay what the products are worth - and they WILL be worth it. SOUND OFF! The TS2068 is still in production legally and otherwise around the world. That should tell you something. Everywhere but here? Why?

Show a little support and wonders can happen. Your computer is not just an obsolete toy. Slay those software TROLLS with your support.

William J. Pedersen
aka Dr. Strangequark



Hara COMPLEX
Arena, Conference & Exhibition Center
1001 Shiloh Springs Road
Dayton, Ohio 45415
(513) 278-4776

Numbers on Map Correspond with Hotel Guide on Back

NORTH DAYTON HOTELS

1. **Dayton Airport Hotel**
Cox International Airport, 513/898-1000, 158 Total Rooms
2. **Knights Inn - Dayton Airport**
75 Corporate Center Dr., 513/898-8321, 105 Total Rooms
3. **Cross Country Inn**
550 E. National Rd., 513/898-7636, 94 Total Rooms
4. **Crossroads of America**
845 E. National Rd., 513/898-5871, 84 Total Rooms
5. **Hampton Inn**
20 Rockridge, 513/832-2222, 65 Total Rooms
6. **Holiday Inn - Northwest**
10 Rockridge, 513/832-1234, 150 Total Rooms
7. **Cross Country Inn**
9325 N. Main, 513/836-8339, 120 Total Rooms
8. **Knights Inn**
1212 S. Main, 513/832-3770, 107 Total Rooms
9. **Ramada Inn - North**
I-75 & Little York Rd., 513/890-9500, 139 Total Rooms
10. **Rodeway Inn**
7575 Poe Ave., 513/454-0550, 120 Total Rooms
11. **Days Inn - North**
7470 Miller Lane, Exit 60 (I-75), 513/898-4946, 188 Total Rooms
12. **Red Roof Inn - North**
13. **Knights Inn - Northwest**
I-75 & Little York Rd., 513/898-1212, 106 Total Rooms
14. **Motel 6**
7130 Miller Inn, 513/898-3606, 98 Total Rooms
15. **The Residence Inn - Dayton North**
7070 Poe Ave., 513/898-7764, 64 Total Rooms
16. **Radisson Inn - Dayton**
I-75 & Needmore Rd., 513/278-5711, 253 Total Rooms
17. **Travelodge**
3636 N. Dixie Dr., 513/278-1500, 119 Total Rooms
18. **Econo Lodge of Dayton**
2221 Wagoner Ford Rd., 513/278-1500, 106 Total Rooms
19. **Holiday Inn - North**
2301 Wagoner Ford Rd., 513/278-4871, 208 Total Rooms

SPENCER ALLEN
1200 S. Courtenay Pkwy. #805
Merritt Island FL 32952
September 10, 1990

SPAPOAERCOP

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Redwood City CA 94061

Mr. Bill Jones
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Panama City FL 32404

M/M Frank Davis
513 E. Main St.
Peru IN 46970

Rod Gowan
419 1/2 7th St.
Oregon City OR 97077

Mr. Syd Wyncoop
15951 Rosalita Dr.
LaMirada CA 90638

Mr. Dan Elliot
RR-1 Box 117
Cabool MO 65689

Dear Fellers:

Sometimes I feel like I am all alone out here in that "IBM compatible" infested jungle, where seldom is heard an encouraging word for the bastard offspring of Sir Clive's flawed genius. But Jack Dohany assures me that is not necessarily so. At least you people listed above seem to be in the Sinclair corner.

But it is not the status of the TS 2068 and the QL which prompts me to contact you stalwarts. I need your help to form an ad hoc committee to be named SPAPOAERCOP, an acronym meaning The Society for the Preservation and Promotion of AERCO Products.

I first became alarmed earlier this year when Bill Jones announced that UPDATE would no longer supply issue disks formatted for AERCOs FD 68 disk drive. He defected to Larken. So too has Rod Gowan of RMG. If you send him a billy-doo on a floppy he wants it on Larken.

In the beginning we had a number of disk systems: RAMEX, Zebra, ARCO, Larken and Oliger. The first two have since folded. I hear that Larken is shaky, and I don't know what has happened to Oliger. Also gone from the scene is the ill-starred stringy floppy microdrive. So, that leaves AERCO. But are they still in business? YES, says Jerry Chamkis in a recent letter. But AERCO needs some TLC and help.

Here is the story as related to me by Jerry: This is a small two-man company--Jerry and Til Chamkis. I don't believe they even have a secretary. They started out small about 11 years ago making circuit boards for industrial control uses. When the TS-2068 first appeared in 1983 (yep, seven years ago!) we began too see flyers and ads from AERCO offering numerous items of hardware for this new computer with so much promise. They began marketing disk drives and then got into the peripheral market--the FD 68 floppy disk driver with a RGB output, the Centronics parallel printer interface, the RS232 interface with terminal emulator, a C/PM emulator called R/PM, etc. Their devices were fairly well documented, written by Til. The programming was devised by Jerry.

The two brothers got into the peripheral business for the TS 2068 in a big way. And then BOOM--Timex pulled the plug, Sir Clive pulled out, supplier and publications support dwindled, leaving several hundred (perhaps thousands) of die-hard 2068 enthusiasts high and dry. The entrepreneurs, no longer profiting in a burgeoning market for Sinclair computers, either went under or moved to greener (or Big Blue) pastures.

pasturesm.

To survive the Chamkis brothers fell back on their original commercial products, industrial circuit boards. But they tried to continue service to their Sinclair customers, repairing disk drives and interfaces, replacing fried components, etc. They have tried to squeeze in this service during their regular 16-hour work days. As Jerry tells its: "We devote what time we can to our T/S friends out of a sense of responsibility," But it's tough he says when they repair T/S boards charging just \$5.00 an hour, but it costs him \$40 an hour to get his 1972 Volkswagen repaired. He says: "I fear there is simply no way we will ever be able to use our horrendously expensive development facilities as a favor to our many loyal friends, no matter how badly it makes us feel...I am not very satisfied with AERCO's performance, but have no idea how we can afford to devote any significant part of our precious time to doing better." Sobeit, selah and amen.

But wait. When I asked if AERCO would welcome any volunteer help in repairing, devising or upgrading existing programs or devices, Jerry wrote "Yes YES, YES!!" And that gave me the idea of consulting you gurus and try to determine how such a volunteer service could be set up. Who has the time for it? Who has the facilities to repair fried boards? Who has the schmartz to design new devices or upgrade old ones? Where do we find a fabricator for circuit boards? A guy like Dan Elliot of Cabool MO comes to mind. But Dan, I hear you are a one-man operation yourself, up to your physteris in backorderd repair jobs.

Jack, you have worked closely with the Chamkis lads. What input could provide to implement this idea? You have done some outstanding programming in your Fairware Enterprise and you have remained loyal to the PD 68. Sooo....would you take over the chairmanship of SPAPOAERCOP ad hoc committee, enlist the aid of any other gurus out there who might help to get this ball rolling?

I cannot do any more than just come up with ideas. I am a retired broadcast journalist with no technical background or schmartz about computers. Also, I'm 78, going on 80, am slowed down by Parkinsons disease and am short in the energy department. (O, to be 75 again!) So, if this idea has any merit and you are willing to carry on, old boy, I shall sit on the sidelines and applaud.

Best 73s

Spence

SPENCE (KOREC)

I. S. T. U. G.
513 EAST MAIN STREET
PERU, IN 46970

FIRST CLASS



Address correction requested:

*membership expired
please renew*

To: LAMBERT DON 97
1301 KIBLINGER PLACE.
AUBURN, IN 46706

ISTUG is a not for profit, educational organization dedicated to helping users of Timex, Sinclair and Cambridge computers. We offer a hardcopy and software library for our membership along with technical assistance and monthly meetings (usually the last Saturday of the month at 1:30 P.M.). Full membership is available at \$12 per year and newsletter only subscriptions at \$9 per year. Send all inquiries, along with SASE, to ISTUG, 513 E. Main St., Peru, IN, 46970.

IEEE-488 COMMODORE Synchronous Serial Interface (GPIB)

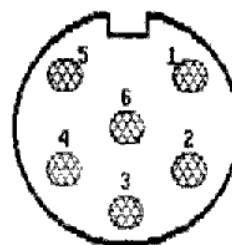
The serial bus is a daisy-chain arrangement designed to let the computer communicate with synchronous serial devices like disk drives, printers, and plotters. Up to 5 devices can be connected to the bus. There are three types of operation: CONTROL, TALK and LISTEN. The computer is the CONTROLLER. It can also TALK and LISTEN. A TALKER puts data onto the bus. Only one device can TALK at any time or chaos results. Any number can LISTEN.

All devices on the bus receive all signals. To select which device is to respond to the data, a "primary address" is put on the bus. This can be from 4 to 31 for the COMMODORE 64.

The computer can COMMAND any addressed device to TALK, LISTEN or both. A "secondary address" allows selection of features within the addressed device, like font selection and graphic modes.

OPEN 1,4,7 will assign the printer (4) to stream #1 and set up the UPPER / LOWER case mode (7). This puts nothing on the bus, but sets up a device control block belonging to stream #1.

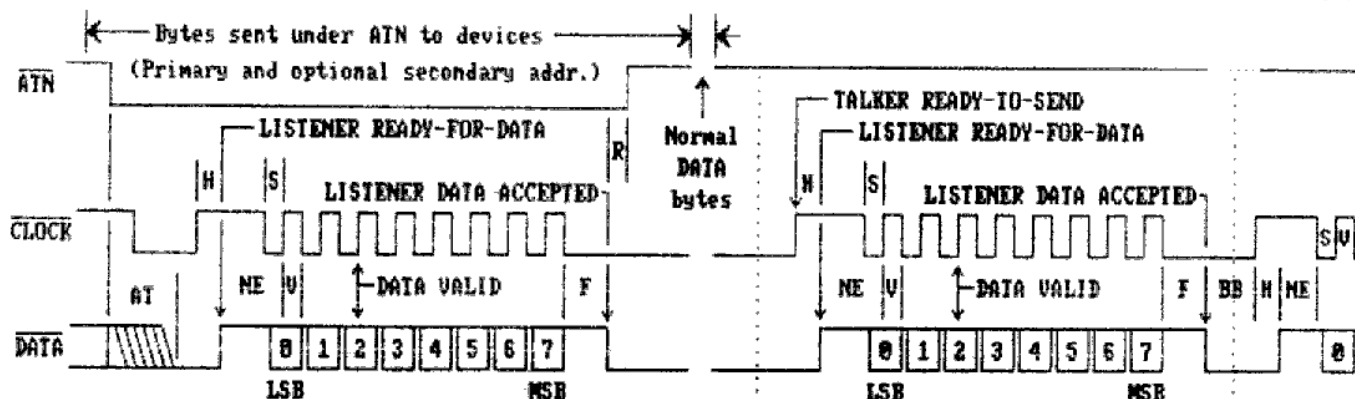
NUMBER	DEVICE
4 or 5	VIC-1525 GRAPHIC PRINTER
6	VIC-1520 PRINTER PLOTTER
8 to 11	VIC-1541 DISK DRIVES



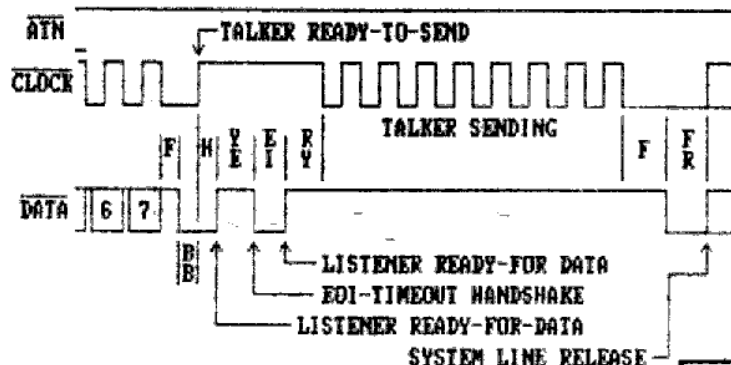
(C) 1989

SERIAL BUS PINOUTS (5K PULL-UP Open Collector)

Pin	Description	Active	
1	SERIAL SRQ IN	1	Device needs service.
2	GND		
3	SERIAL ATN IN/OUT	LO	COMMAND identifier Computer / GPB etc.
4	SERIAL CLK IN/OUT	LO	DATA strobe, Handshake
5	SERIAL DATA IN/OUT	LO	DATA bits, LSB first
6	RESET	OUT	LO



END-OR-IDENTIFY (POLL for IDENTIFY)



NOTES:

1. "Device not present" if > max.
2. EOI response required if > max.
3. Frame error if > max.
4. V and PR 60 uSEC min for TALKER.
5. Timing of TR, DC and DA depends on how long it takes for the XLISTENER to recognize the "wrong" polarity of DATA, the XTALKER to recognize the "wrong" polarity of CLOCK, and adjust states accordingly.

SERIAL BUS TIMING (uSEC)

Symbol	Description	Note	Min	Typ	Max
AT	ATN Response (Required)	1	---	---	1000
H	LISTENER Hold-Off		0	---	INF
NE	Non-EOI Response to RFD	2	---	40	200
S	BIT Set-Up, TALKER	4	20	70	---
V	DATA Valid		20	20	---
F	FRAME Handshake	3	0	20	1000
R	FRAME to Release of ATN		20	---	---
BB	Between BYTES		---	---	---
YE	EOI Response		200	250	---
EL	EOI Response Hold		60	---	---
RY	TALKER Response Limit		0	30	60
PR	BYTE Acknowledge	4	20	30	---
DC	DATA Held LO by XTALKER	5	---	---	---
DA	CLOCK Held LO by XLIS'R	5	---	---	---

Make DEVICE a TALKER and LISTEN

